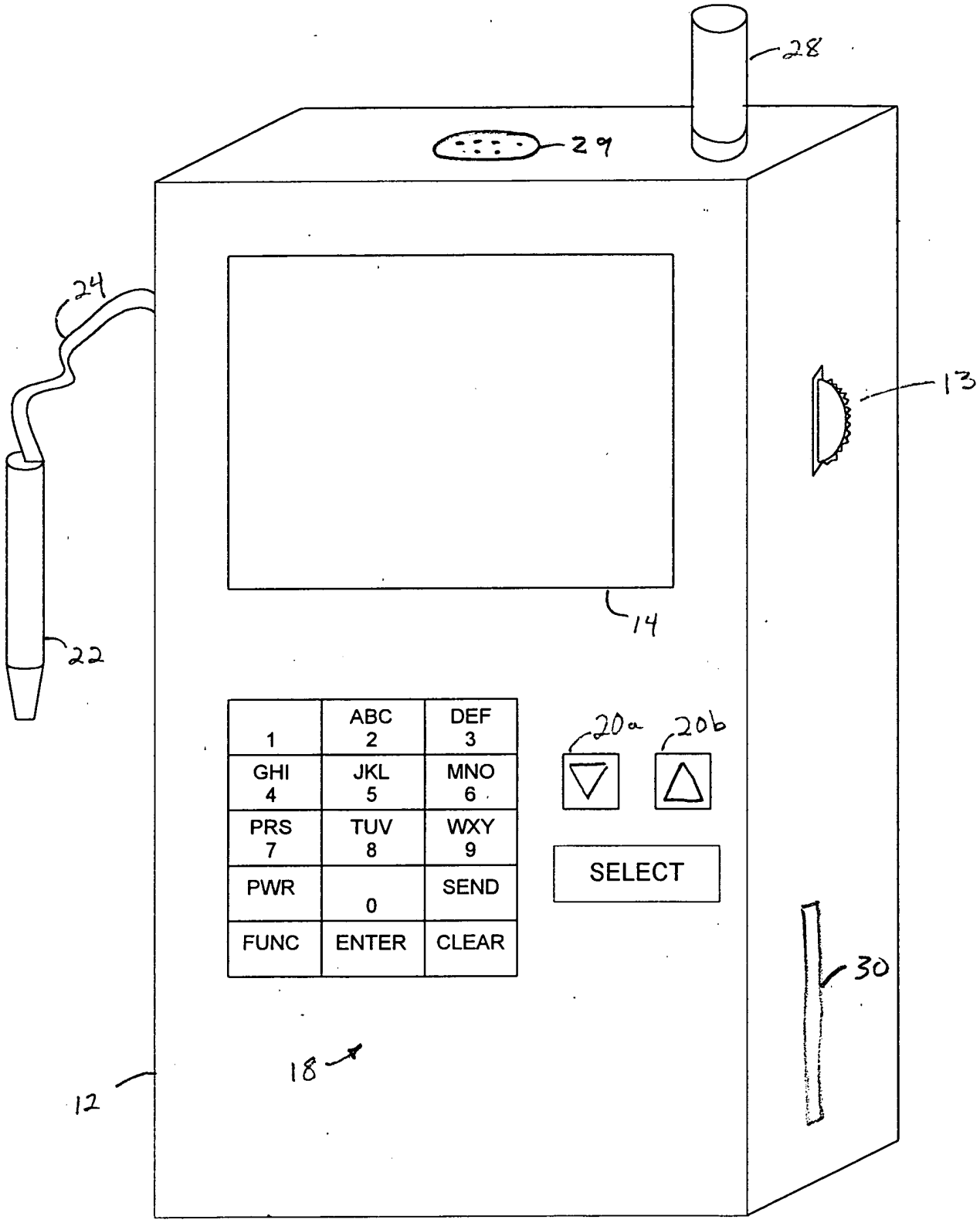
28
29
24
13
14
22
1
ABC 2
DEF 3
GHI 4
JKL 5
MNO 6
PRS 7
TUV 8
WXY 9
PWR
0
SEND
FUNC
ENTER
CLEAR
20a
20b
SELECT
30
18
12
10

Fig. 1

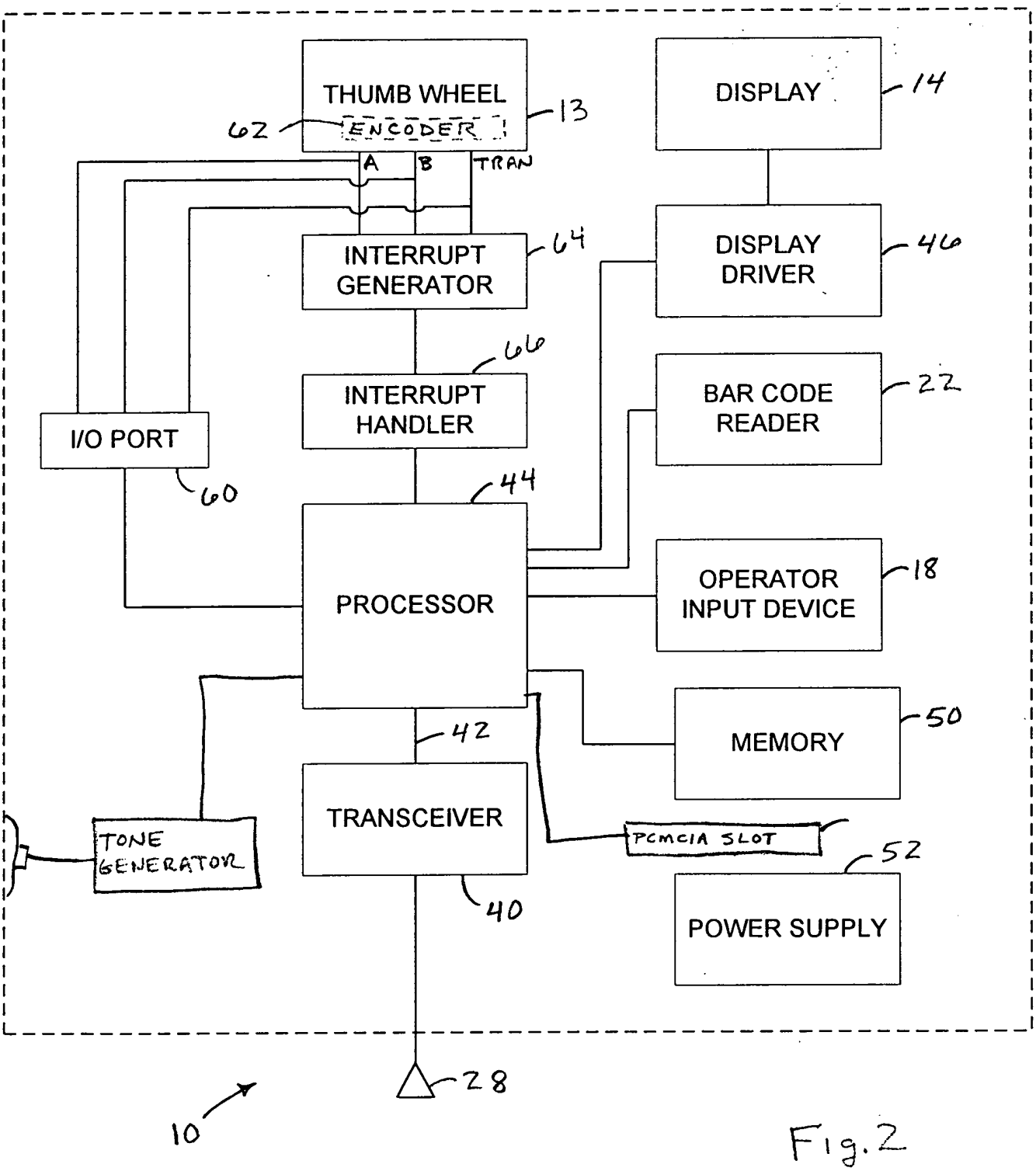
THUMB WHEEL
ENCODER
62
13
A
B
TRAN
DISPLAY
14
DISPLAY DRIVER
46
INTERRUPT GENERATOR
64
INTERRUPT HANDLER
66
BAR CODE READER
22
I/O PORT
60
44
PROCESSOR
OPERATOR INPUT DEVICE
18
MEMORY
50
42
TRANSCEIVER
PCMCIA SLOT
52
TONE GENERATOR
40
POWER SUPPLY
28
10

Fig. 2

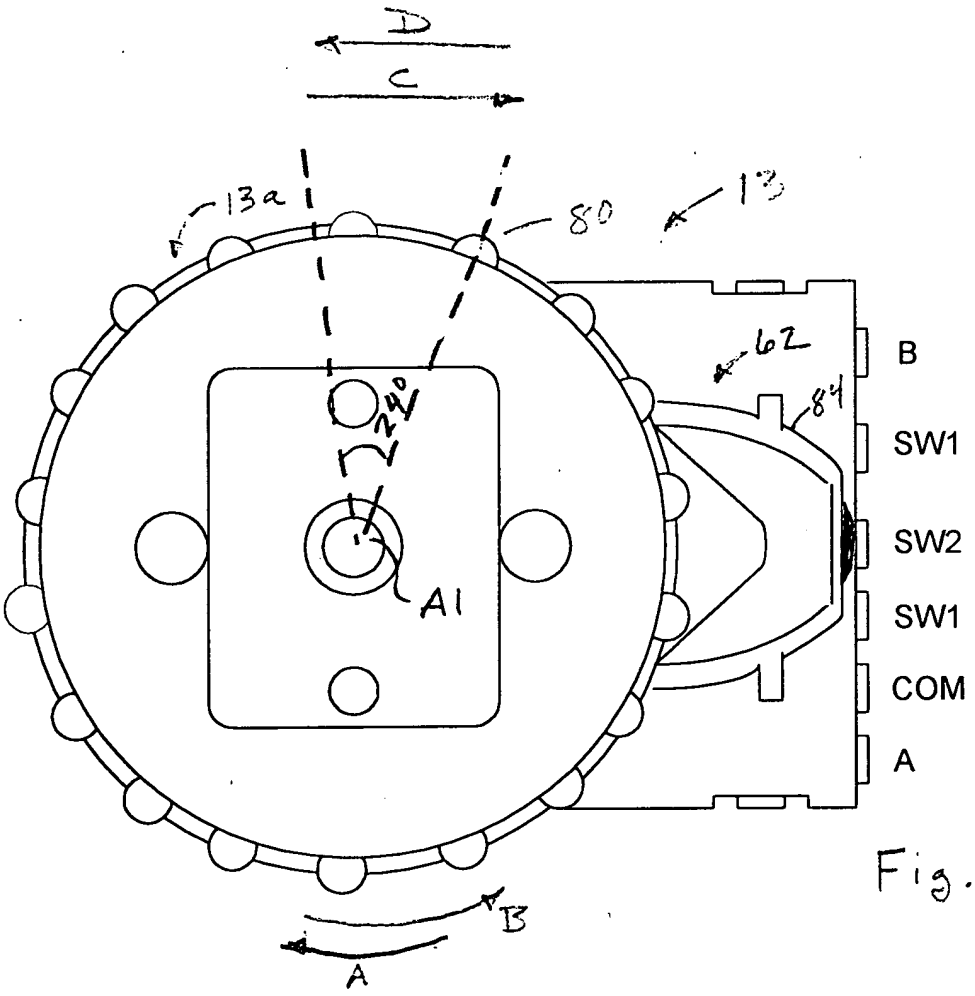
D
C
13a
80
13
62
84
B
SW1
SW2
SW1
COM
A
A1
B
A

Fig. 3

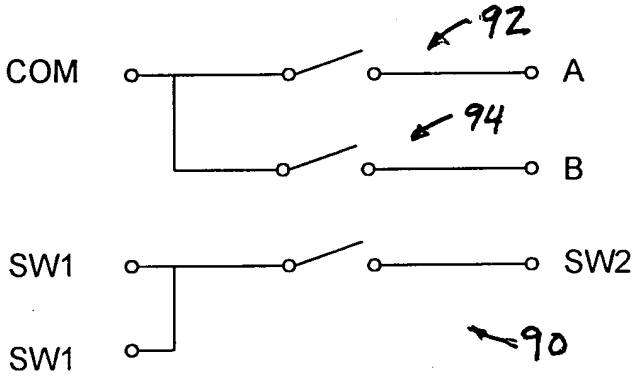
92
COM
A
94
B
SW1
SW2
SW1
90

Fig. 4

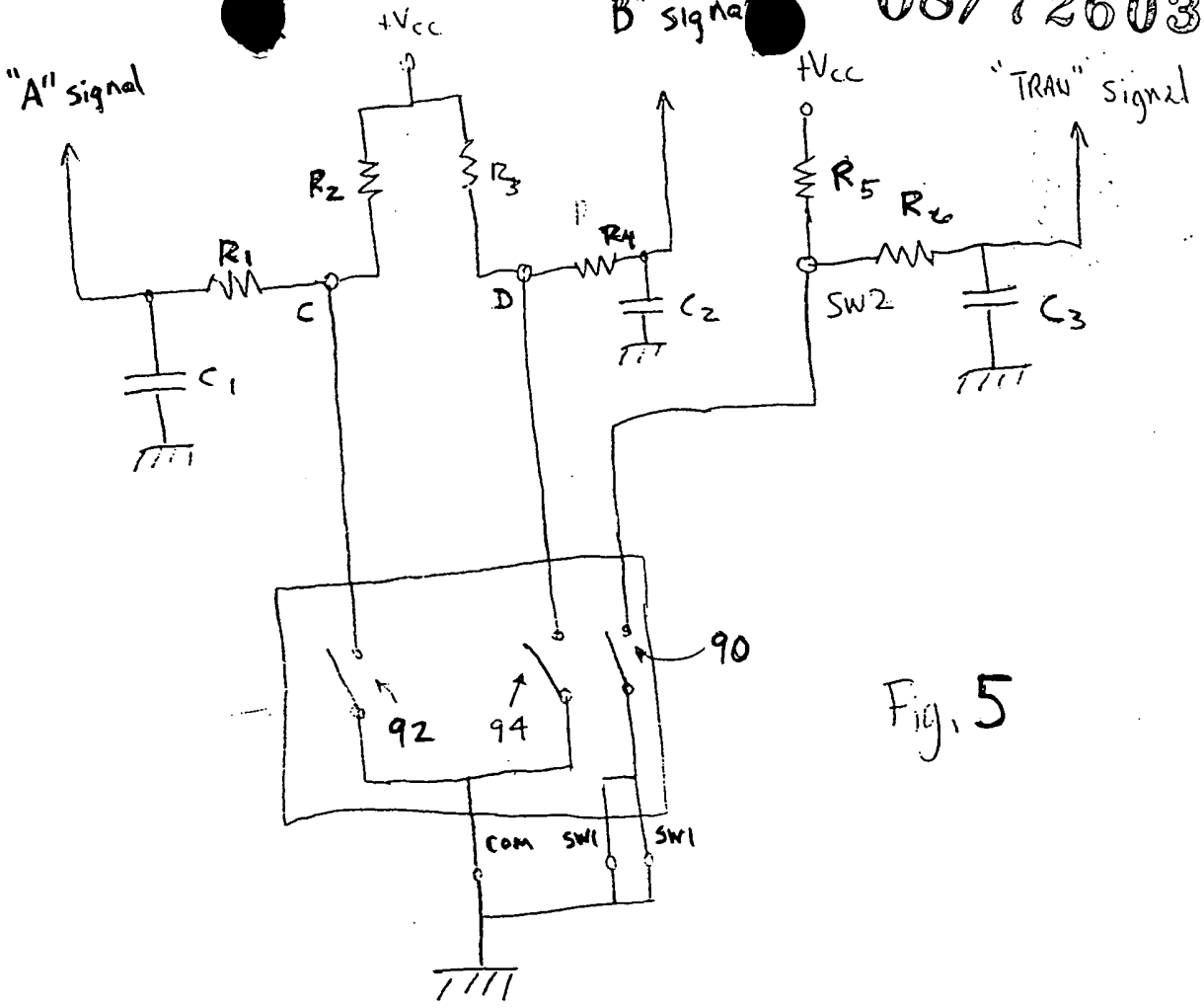
"A" signal
+Vcc
"B" signal
+Vcc
"TRAN" signal
R1
R2
R3
R4
R5
R6
C1
C2
C3
C
D
SW2
90
92
94
com
SW1
SW1

Fig. 5

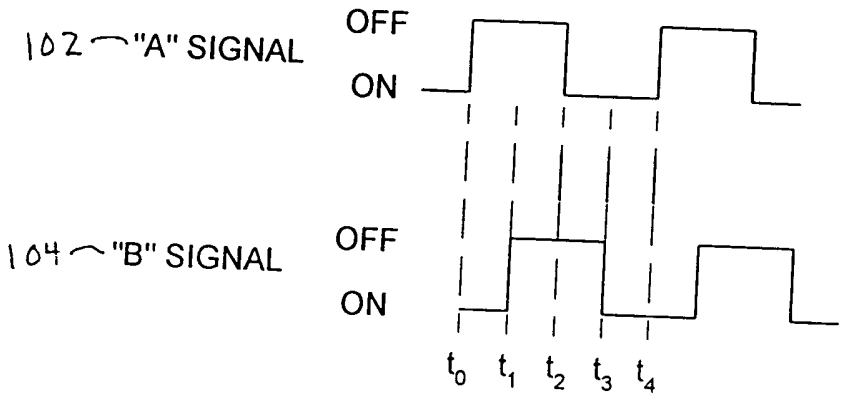
102 "A" SIGNAL
OFF
ON
104 "B" SIGNAL
OFF
ON
t_0 t_1 t_2 t_3 t_4

Fig. 6

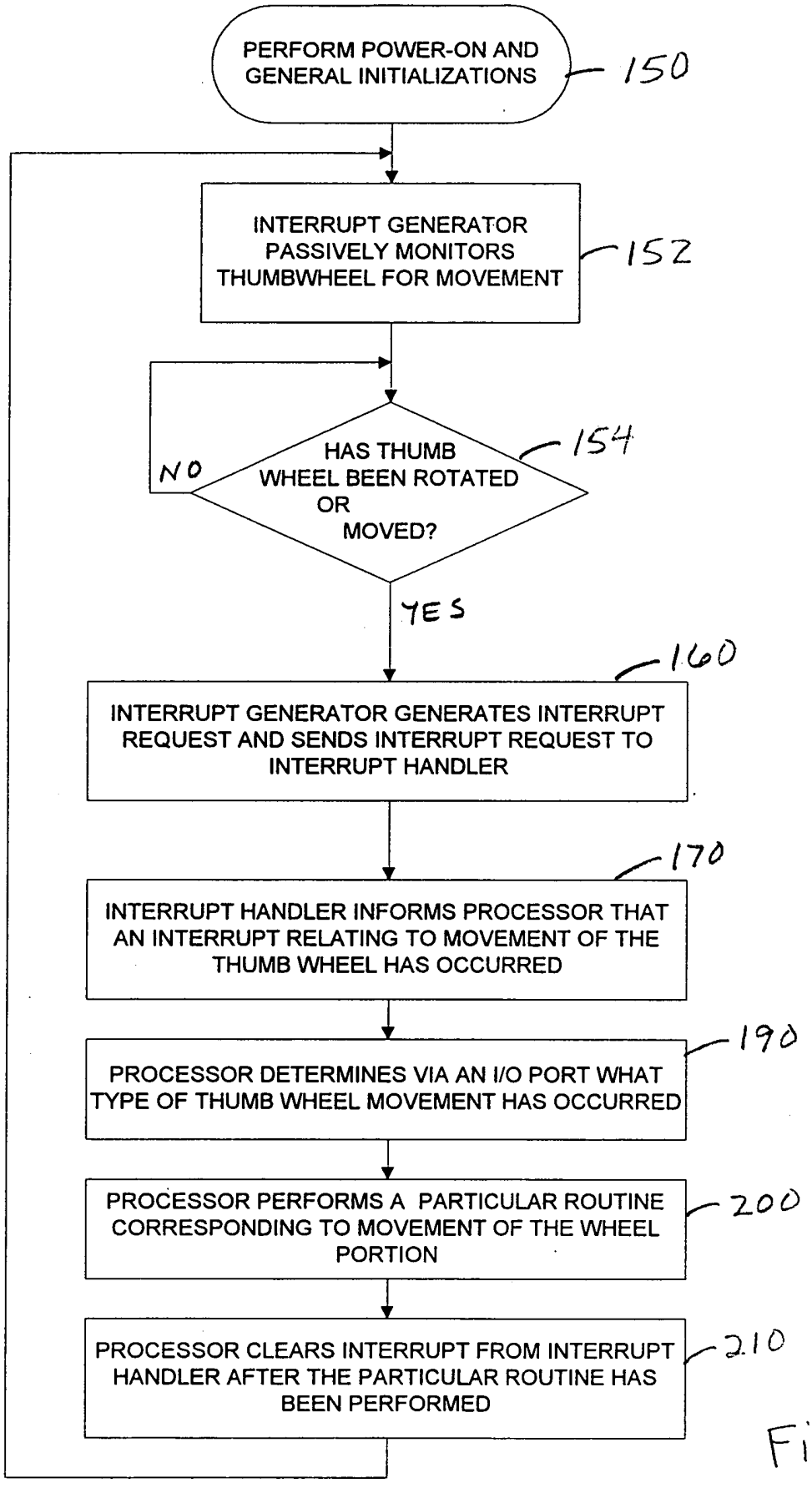
PERFORM POWER-ON AND GENERAL INITIALIZATIONS
150
INTERRUPT GENERATOR PASSIVELY MONITORS THUMBWHEEL FOR MOVEMENT
152
HAS THUMB WHEEL BEEN ROTATED OR MOVED?
154
NO
YES
160
INTERRUPT GENERATOR GENERATES INTERRUPT REQUEST AND SENDS INTERRUPT REQUEST TO INTERRUPT HANDLER
170
INTERRUPT HANDLER INFORMS PROCESSOR THAT AN INTERRUPT RELATING TO MOVEMENT OF THE THUMB WHEEL HAS OCCURRED
190
PROCESSOR DETERMINES VIA AN I/O PORT WHAT TYPE OF THUMB WHEEL MOVEMENT HAS OCCURRED
200
PROCESSOR PERFORMS A PARTICULAR ROUTINE CORRESPONDING TO MOVEMENT OF THE WHEEL PORTION
210
PROCESSOR CLEARS INTERRUPT FROM INTERRUPT HANDLER AFTER THE PARTICULAR ROUTINE HAS BEEN PERFORMED

Fig. 7

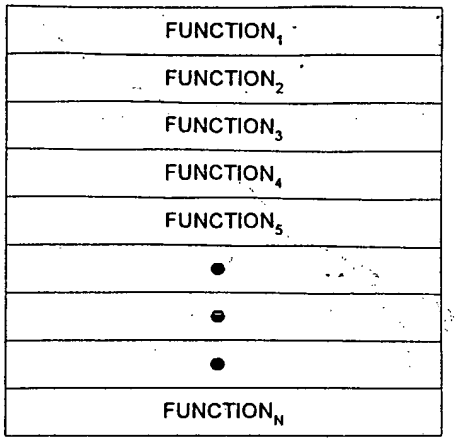

Fig. 8A

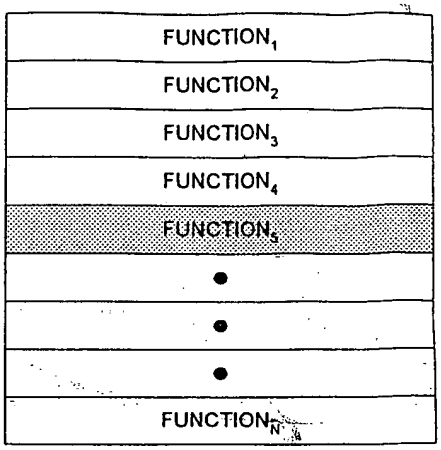

Fig. 8D

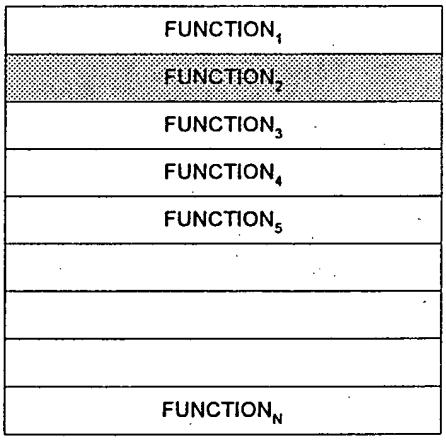

Fig. 8B

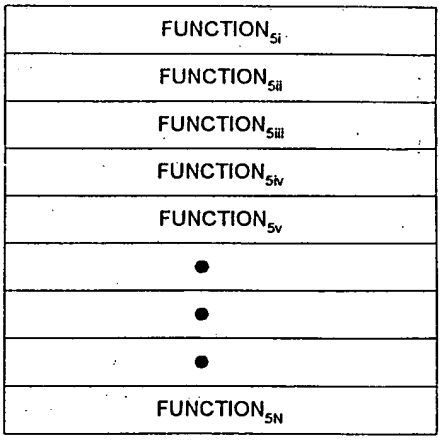

Fig. 8E

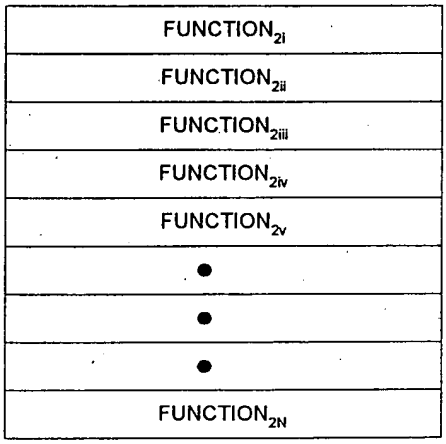

Fig. 8C